

# **THE 1993 PIAA MEDICATION ERROR STUDY: A SUMMARY**

**by PAUL J. CONNORS, M.D., J.D., CAPT, MC, USNR**

The Physician Insurers Association of America (PIAA) was organized in 1977 as a national representative body of those medical liability insurance companies owned or directed by physicians. A major component of the medical malpractice crisis of the 1970's in the United States was the decision on the part of a number of prominent commercial insurance carriers to discontinue underwriting medical liability policies.<sup>1</sup> In some states, those insurers had previously either represented a sole source of coverage or underwritten an overwhelming market share. In response, a number of newly created medical liability insurance companies owned or operated by physicians were organized. Today, 47 insurance companies from across the nation are constituent members of PIAA. Collectively, they insure more than 60 per cent of all private practicing physicians in the United States.

Among its various objectives and functions, PIAA has maintained a Data Sharing Project regarding medical malpractice claims filed against member companies since 1985 as a reliable, credible statistical database for claims analysis and risk management. Today, more than 100,000 malpractice claims have been submitted to that project for uniform review and collation, and PIAA issues biannual reports about the complete database as it evolves.<sup>2</sup>

In recent years, PIAA has also published a series of focused reviews dedicated to special types of malpractice claims paid by participating insurance companies. Analysis of claims regarding the failure to diagnose breast cancer (1990), colon cancer (1991), and lung cancer (1992) initiated this series.<sup>3,4,5</sup>

In 1993, PIAA produced a report analyzing claims paid for medication errors, and that study is the subject of this summary report.<sup>6</sup>

An analysis of claims arising from the performance of laparoscopic cholecystectomies is to be released at the 1994 Annual Meeting of PIAA in San Diego.

## **STUDY DESIGN**

The special studies undertaken by PIAA are a by-product of the ongoing Data Sharing Project. In 1992, that complete database included information on 90,166 claims, 25,457 of which were closed. The total indemnity payment was in excess of \$3.16 billion, with an average indemnity payment of \$124,431.

From 1985 through 1992, the prescription of medications was the second most frequent and second most expensive clinical procedure involved in malpractice claims reported to the PIAA database. By June 1992, there had been 6,646 claims reported to PIAA involving medication errors, with payment made in 2,195 cases. The total indemnity was \$218.9 million, with an average payment of \$99,721.

After initial field trials, the PIAA Medication Error Study Committee implemented its study protocol in January 1992. Ultimately, 24 companies within PIAA voluntarily participated in the project. Those companies are listed in an Appendix. They range from the smallest to the largest PIAA constituents and underwrite policies in states across the nation. Similar to prior PIAA focused reviews, the intent of this study was to better define the nature of this special type of claim and the potential means by which they might be prevented.

Specific goals of the study included identifying individual claims involving medication error that had resulted in an indemnity payment of at least \$5,000; collecting data from each case regarding physician specialty, medication classification, and patient injury; gathering other historical or treatment related data that might

have contributed to the cause of the claim; and analyzing the data for common denominators that, if addressed, could improve medical practice in prescribing medications.

The participant PIAA companies were requested to complete a uniform data collection survey regarding their 20 most recent claims with a minimum indemnity payment of \$5,000 for which medication errors were the main cause of loss. The companies submitted 442 completed forms, and claims reported per company varied from 0 to 29. The Study Committee considered 19 claims misclassified as medication errors and, with further editing, ultimately entered 393 reports for final analysis.

## SIGNIFICANT RESULTS

The total indemnity paid for the 393 claims was \$47,443,655, and the average indemnity was \$120,722. Patients between the ages of 18 and 59 years were involved in two-thirds of the claims, while those from the age brackets 6-12 years and 13-17 years were involved in claims with the highest indemnities.

The medical specialties of physicians most frequently involved were internal medicine and family practice. These two specialties accounted for nearly 60 percent of claims and more than 45 percent of indemnity paid (Table 1).

Medications most frequently found in this series of paid claims were antibiotics, glucocorticoids, and narcotic/nonnarcotic analgesics/narcotic antagonists (Table 2). An error taxonomy was developed by the Study Committee. The types of errors varied among the different medication categories. For antibiotics, the most common errors were failure to note documented allergy, failure to utilize the most appropriate medication, and prescription of a medication inappropriate for the medical condition. With glucocorticoids, those errors were incorrect dosage, communication failure between doctor and patient, and failure to monitor for side effects. With narcotics, they were prescription of a medication inappropriate for the medical condition, incorrect dosage, and failure to monitor for side effects.

PROVIDER'S SPECIALTY		
	CLAIMS(%)	INDEMNITY(%)
Internal Medicine	30.3	27.3
Family Practice	29.0	18.5
General Surgery	5.3	4.8
Obstetric/Gynecology	5.3	2.7
Orthopedic Surgery	5.3	2.7
Pediatrics	4.3	10.5

TABLE 1

PROVIDER'S SPECIALTY		
	CLAIMS(%)	INDEMNITY(%)
Antibiotics	13.7	11.2
Glucocorticoids	11.5	9.3
Narcotics	9.7	15.9

TABLE 2

The authors found, however, that there were certain errors common to the various medication categories. They concluded those errors potentially indicated cognitive deficits regarding medications on the part of involved practitioners.

In this database, as within the main PIAA Data Sharing Project, patient injuries were categorized according to a graduated disability code from the National Association of Insurance Commissioners. Significant permanent or more serious patient injuries occurred in 42 percent of the claims surveyed, and death occurred in 21 percent

of cases. Following careful reanalysis of the death cases, the Study Committee concluded that medication error was either the direct cause or a major contributing factor in 84 percent of those claims.

## COMMENT

Historically, medical malpractice claims have most often been filed against surgeons or other practitioners who have rendered invasive, procedurally oriented medical care.<sup>7</sup>

Initially, it should be noted that this study documents that claims alleging medication errors are filed against and cause indemnity payments by various specialties, surgical and nonsurgical. More striking, however, is the study's finding that this category of malpractice claim can so frequently and so expensively involve practitioners from nonsurgical specialties.

In 1883, Oliver Wendell Holmes, Sr. remarked "... if the whole of the materia medica as now used could be sunk in the bottom of the sea, it would be all the better for mankind and all the worse for the fishes."<sup>8</sup> The interim century has witnessed a number of literally breathtaking advances in medical practice. One of the most dramatic changes affecting the practice of all physicians today, however, is the ready availability of powerfully effective medications.

During a five-month period, Steel, *et al.*, found iatrogenic illnesses affecting 36 percent of 815 consecutive patients admitted to the general medical services of a university hospital.<sup>9</sup> Those illnesses were considered major in nine percent of admissions and to have contributed to the patient's death in two percent. Injuries from medications were responsible for 208 instances of the 322 iatrogenic complications that were not associated with either a diagnostic or therapeutic procedure.

In an accompanying editorial, Myers recalled the warning to the resident house staff by Professor S. Weiss upon assuming the chair of medicine at Harvard in 1939 that they were about to be granted therapeutic measures as powerful as those of surgeons. A clinical pharmacologist, Professor Weiss further warned them that "... great knowledge and discretion" would be required accordingly.<sup>10</sup>

The PIAA Medication Error Study concludes with a number of risk management lessons the authors consider worthy of dissemination by the organization's constituent companies to their insured practitioners. In summary, consistent with forewarnings, powerful medications are capable of causing powerfully dire patient injuries. They need be dispensed with great knowledge and discretion.

## REFERENCES

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2. Physician Insurers Association of America. Data Sharing Reports, Cycle 17 - June 1993. Washington, DC: Physician Insurers Association of America; June 1993.
3. Physician Insurers Association of America. Breast Cancer Study. Washington, DC: Physician Insurers Association of America; March 1990.
4. Physician Insurers Association of America. Colon Cancer Study. Washington, DC: Physician Insurers Association of America; January 1992.

6. Physician Insurers Association of America. Medication Error Study. Washington, DC: Physician Insurers Association of America; June 1993.
7. Sandor AA. The history of professional liability suits in the United States. JAMA. 1957; 163:459-466.
8. Holmes OW. The Young Practitioner. Boston, MA: Houghton, Mifflin and Co.; 1883.
9. Steel K, *et al.* Iatrogenic illness on a general medical service at a university hospital. NEJM. 1981; 304:638-642.
10. Myers JD. Preventing iatrogenic complications [editorial]. NEJM. 1981; 304:664-665.

## APPENDIX

Mutual Insurance, Incorporated (Alabama)  
 Mutual Insurance Company of Arizona  
 Medical Insurance Exchange of California  
 NORCAL Mutual Insurance Company (California)  
 COPIC Insurance Company (Colorado)  
 Connecticut Medical Insurance Company  
 Florida Physicians Insurance Company  
 MAG Mutual Insurance Company (Georgia)  
 Medical Liability Mutual Insurance Company (New York)  
 Medical Mutual Insurance Company of Maine  
 Medical Assurance Company of Mississippi  
 Medical Defense Associates (Missouri)  
 Missouri Medical Insurance Company  
 Midwest Medical Insurance Company  
 The Medical InterInsurance Exchange of New Jersey  
 New Mexico Physicians Mutual Liability Company  
 Medical Mutual Insurance Company of North Carolina  
 Physicians Insurance Company of Ohio  
 Northwest Physicians Mutual Insurance Company (Oregon)  
 Pennsylvania Medical Society Liability Insurance Company  
 American Physicians Insurance Exchange (Texas)  
 Utah Medical Insurance Association  
 Washington State Physicians Insurance Exchange  
 Physicians Insurance Company of Wisconsin